TECHNICAL DATA BOOK

OF

INDUSTRIAL COATINGS

www.NanoPhos.com
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NanoPhos
Pioneering
Nanotechnology

MAINTENANCE, REPAIRS AND CLEANING

EPOXY PRIMERS & TOP COATS

POLYURETHANE PRIMERS & TOP COATS

QUICK DRYING PRIMERS & TOP COATS

STOVING PRIMERS & TOP COATS

THINNERS

HMD

Heavy Duty Degreaser

PRODUCT DESCRIPTION

Biodegradable water-based cleaner that emulsifies and removes oil, grease and grime. Cleans and eliminates by dissolving heavy oil residues in engine rooms, motors, machinery and dock or industrial equipment.

RECOMMENDED USE

Ideal for removing grease, oil and sludge from the engine parts, tools, mechanical brakes, clutches, chains, cables, mouldings, components, bearings, generators and compressors.

KEY FEATURES

- Not Flammable. Significantly reduces the risk of fire caused by incidental contact with live electrical equipment or solvents trapped by insulating materials.
- Fast Evaporation. Minimizes downtime associated with “clean-in-place” cleaning methods.
- Non-toxic and Biodegradable.

APPLICATION

Spray liberally and allow running off. Use extension tube for hard-to-reach areas. Allow cleaned equipment to fully dry and vent before using or turning on. A dry, absorbent cloth can accelerate drying time. Do not use the product on plastics surfaces such as acrylic, ABS and polycarbonate. If uncertain, check with the manufacturer or test on a small area before using. Do not use while equipment is energized/turned on.

AVAILABLE PACKAGING

4L and 30L plastic canisters

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5^{o}C to 35^{o}C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

HEC

Heavy Duty Electric Cleaner

PRODUCT DESCRIPTION

High performance cleaner for electric components that dirt has built-up. It can dislodge foreign elements and clean components. Prevents electric contact failure. It leaves no residues. Quick-drying formulation (medium to fast type). Use on any exposed sensitive electronic components and contacts (engine controls, data sensors and wiring).

RECOMMENDED USE

As an electrical contact and parts cleaner to remove grease, dirt, oil, flux and other surface contaminants from sensitive electrical/electronic devices. Applicable to clean motorized instruments, control panels, electrically driven parts, motors, and other electronic devices requiring a fast acting, low residue degreasing agents. Recommended for switches, AC or DC contacts, relays, PC boards, electrical motors and sensors.

KEY FEATURES

- Fast Evaporation. Minimizes downtime associated with “clean-in-place” cleaning methods.
- No Class I or II Ozone Depleting Chemicals. Alternative to 1,1,1 Trichloroethane products while complying with the EPA regulations on the use of ozone depleting chemicals.

APPLICATION

Spray liberally and allow running off. Do not apply to active equipment or where there is a residual electrical potential from a component such as a capacitor. Spray surface to be cleaned using 15 second bursts. For stubborn residues, repeat application. For difficult applications, swabs or lint free cloths may be used. Allow to dry completely before re-activating system.

AVAILABLE PACKAGING

5L and 30L metal drums.

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5^{o}C to 35^{o}C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

ARC

Gel Rust Remover

PRODUCT DESCRIPTION

ARC is a rust remover in **GEL** form. Despite its acidic character, it contains no hydrochloric acid. ARC Gel effectively removes the rust off the surfaces to prepare them for protective coating application (primer and paint). It also contains flash rust inhibitors to protect early corrosion effects.

RECOMMENDED USE

Ideal cleaner for rust and hard water deposits. Applicable even with salty water. Gel form makes ARC Gel Rust Remover easy to apply on vertical, inclining metal surfaces, steel bars or rails.

KEY FEATURES

- 100% Biodegradable, non-toxic, zero VOC, non-flammable and water based.
- Fast reaction for rust removal.
- Contains no hydrochloric or chloride ingredients.
- Multi-purpose: From metal surfaces to stainless steel boilers, heat exchangers or pipes.

APPLICATION

ARC Gel can be applied by brush on a vertical surface without sagging. Let stand for 5 minutes (longer time needed for intense accumulation of stains), rub with a brush or cloth if needed, and rinse with fresh water. Once rust or deposits have been removed, it is important to treat metal with a protective coating.

AVAILABLE PACKAGING

5Kg and 15Kg plastic pails.

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

ESP

Epoxy Shop Primer

PRODUCT DESCRIPTION

Two-component epoxy shop primer, pigmented with rust-inhibiting pigments. It is highly recommended as a thin coat for blast cleaned steel plate protection during its storage and machining period. Easily applicable with both spraying and roller (manual) application.

RECOMMENDED USE

It is designed for automatic spray application as well as manual application. As a thin coat for blast cleaned steel plate protection, other structural during the storage and building period.

APPROVALS AND CERTIFICATES

Approved by Lloyd's Register as **ECP** Epoxy Construction Primer, for use as a pre-fabrication primer. Certificates can be provided upon request.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	10	50	30
Wet Film Thickness (µm):	33	167	100
Coverage Rate (m^2/L):	30	6	10

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Zinc Phosphate Epoxy Polyamide	**Touch Dry Time ▸**	10min @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	20min @ 20°C
Colour ▸	Red Brown, Cream	**Min. Recoat Interval ▸**	30min @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	7d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	30±3	**Water Resistance ▸**	Good
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Good

SURFACE PREPARATION

Blasting: Sa 2½; with profiles between 30-75 µm, Reference standard: ISO 8501-1:2007.

All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

APPLICATION

Conventional Spraying ►	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: -

Subsequent: Epoxy (EHB, EEN, FGE, 2kMTI, CTE, EPN, CFE, EENOVA), CGU, ENM.
A variety of combinations among primers and topcoats can be used.

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)
20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

EPR

Epoxy Primer

PRODUCT DESCRIPTION

EPR is a universal two-component epoxy primer with anticorrosive long lasting action. It is suitable for application on fiberglass, or metal surfaces. It contains anticorrosive pigments. Conforms low fire spreadability requirements.

RECOMMENDED USE

As an excellent quick drying primer for corrosion protection. Ideal for surfaces exposed to corrosive environments. It can be applied to all surfaces which need primer before painting. Fast-drying corrosion protective paint that smoothens rough surfaces. It can be covered by most coatings (epoxy or not). It can also be used as a sealer / bonding layer over existing epoxy primers.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	80	150	100
Wet Film Thickness (µm):	107	200	133
Coverage Rate (m^2/L):	9.4	5	7.5

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

APPROVALS AND CERTIFICATES

Approved by DBI (Danish Institute of Fire and Security Technology), in accordance with the requirements and the standards of IMO for low flame-spread (Reference to IMO 2010, FTP Code, Part 5). Certificates can be provided upon request.

PROPERTIES

Type ▸	Epoxy Polyamide	**Touch Dry Time ▸**	30min @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	4h @ 20°C
Colour ▸	Red Brown, Cream	**Min. Recoat Interval ▸**	6h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	7d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	75±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness according to ISO 8501-3: 2006 Visual assessment of surface cleanliness.
Immersed Bare Steel: Blast Cleaning Sa 2½; with profiles between 30-75 µm, or on compatible primer coat. Reference standard: ISO 8501-1:2007.
Non-Immersed Bare Steel: Power Tooling St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ►	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR), EZS, SUP, HRA
Subsequent: Epoxy (EHB, EEN, FGE, 2kMTI, CTE, EPN, CFE, EENOVA), CGU

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.
(B) Adequate ventilation must be maintained.
(C) Explosion proof lights & electrical equipment.
(D) Non-Sparking shoes & tools for workers in area.
(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.
(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)
20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

EZR

NanoZinc Rich Epoxy

PRODUCT DESCRIPTION

Two-component, NanoZinc Rich, Corrosion Passivating Coating. The combination of high concentration level of the epoxy binder with the high surface area zinc nanoparticles results in the highest anti-corrosion performance, even in the harshest corrosive environments (e.g. Seawater ballast tanks). Ideal primer in combination with advanced anticorrosion coating systems, in C5-I or C5-M (ISO 12944) environment.

RECOMMENDED USE

As a zinc rich, corrosion protection, high-performance coating. Chemical, power & water treatment plants, refineries, oil & gas pipes, steam pipes, bridges, barges, ships, drilling rigs & paper mills.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	60	120	75
Wet Film Thickness (µm):	72	145	90
Coverage Rate (m^2/L):	13.8	6.9	11.1

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

APPROVALS AND CERTIFICATES

Under evaluation within the Performance Standard for Protective Coating (PSPC) for dedicated seawater ballast tanks of all types of ships of 500 gross tons and above and for the double-side skin spaces of bulk carriers of 150m in length and upwards.

PROPERTIES

Type ▸	nanoZinc Rich Epoxy Polyamide	**Touch Dry Time ▸**	60min @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	6h @ 20°C
Colour ▸	Grey	**Min. Recoat Interval ▸**	12h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	10d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	460 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	83±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness according to ISO 8501-3: 2006 Visual assessment of surface cleanliness.

Immersed Bare Steel: Blast Cleaning, Sa 2½; with profiles between 30-75 µm. Reference standard: ISO 8501-1:2007.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ►	Not Recommended
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019”-0.023”
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP), EZS

Subsequent: Epoxy (EHB, EEN, FGE, 2kMTI, CTE, EPN, CFE, EENOVA), CGU

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)

20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

EHB

High Build Epoxy

PRODUCT DESCRIPTION

A two component high solids, tar free, epoxy tie coat, with premium anti-corrosive and adhesion properties. Its “High Build” composition can achieve thick coatings without sagging or application problems.

RECOMMENDED USE

As a tie coat, between primer, polyurethane and epoxy top coats, to improved anticorrosive protection in corrosive environments and in normal atmospheric conditions.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	60	140	80
Wet Film Thickness (µm):	71	165	94
Coverage Rate (m^2/L):	14.2	6.1	10.6

Drying times differentiate in minimum or maximum values. Maintain recommended values during application.
Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Epoxy Polyamide	**Touch Dry Time ▸**	30min @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	8h @ 20°C
Colour ▸	Red Brown, Cream	**Min. Recoat Interval ▸** **Max. Recoat Interval ▸**	6h @ 20°C 3d @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	10d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	83±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Good

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1998 Test for the assessment of surface cleanliness.

APPLICATION

Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019”-0.023”
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR), EZS
Subsequent: Epoxy (EHB, EEN, FGE, 2kMTI, CTE, EPN, CFE, EENOVA), CGU

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.
(B) Adequate ventilation must be maintained.
(C) Explosion proof lights & electrical equipment.
(D) Non-Sparking shoes & tools for workers in area.
(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.
(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)
20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

EEN

Epoxy Enamel

PRODUCT DESCRIPTION

EEN Polyamide Epoxy Enamel presents a high gloss, excellent weathering resistant and excellent abrasion resistance coating.

RECOMMENDED USE

EEN can be used as an epoxy finish coat in medium to severely corrosive atmospheric environment. A quick drying, hard, chemical resistant coating. Can be applied over intact existing conventional systems and over suitable primers. Good adhesion properties in wet and dry exposure conditions.

APPROVALS AND CERTIFICATES

Approved by DBI (Danish Institute of Fire and Security Technology), in accordance with the requirements and the standards of IMO for low flame-spread (Reference to IMO 2010, FTP Code, Part 5). Certificates can be provided upon request.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	50	120	80
Wet Film Thickness (µm):	77	185	123
Coverage Rate (m^2/L):	13	5.4	8.1

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Epoxy Polyamide	**Touch Dry Time ▸**	1h @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	8h @ 20°C
Colour ▸	Colour Card	**Min. Recoat Interval ▸**	12h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	8d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	65±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

APPLICATION

Conventional Spraying ►	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR), EZS
Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.
(B) Adequate ventilation must be maintained.
(C) Explosion proof lights & electrical equipment.
(D) Non-Sparking shoes & tools for workers in area.
(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.
(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)
20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

FGE

Food Grade Epoxy

PRODUCT DESCRIPTION

Two component 100% solids, high performance, food safe, epoxy coating. Zero migration of food contaminants.

RECOMMENDED USE

As a protective liner for tanks and machinery in contact with food products. FGE can be applied on top of protective coating system to ensure food safety standards.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	80	140	100
Wet Film Thickness (µm):	80	140	100
Coverage Rate (m^2/L):	12.5	7.1	10

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Epoxy Cycloaliphatic Amine	**Touch Dry Time ▸**	30min @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	8h @ 20°C
Colour ▸	White, Grey, Red Brown	**Min. Recoat Interval ▸**	6h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	8d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 10 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	100±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ▶	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2” ID fluid hose, 5/16” ID air hose, DeVilbiss 510 gun, “E” tip and needle, 74 or 78 air cap.
Airless Spraying ▶	Minimum: 30:1 pump. Nozzle: 0.019”-0.023”
Brush ▶	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: -
Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.
(B) Adequate ventilation must be maintained.
(C) Explosion proof lights & electrical equipment.
(D) Non-Sparking shoes & tools for workers in area.
(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.
(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)
20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

2kMTI

Metal Thermal Insulator

PRODUCT DESCRIPTION

Two-component, thermal insulating coating. An innovative, thermal insulating coating utilizing spherical particles that impart exceptional insulating properties to a variety of substrates. Ideal for insulating pipes, valves, tanks, structural steel, or other substrates where thermal improvement and protection is desired. Part of a durable, corrosion-resistant coating system that bonds to the substrate, greatly reducing the issues associated with corrosion under insulation (CuI). Replacement solution for jacket insulation of steam/oil pipes that require thermal insulation combined with the robustness of an epoxy coating.

RECOMMENDED USE

As a thermal insulating coating to prevent heat losses in heat exchangers, heated tanks and (steam) pipes, and to increase the overall energy efficiency. Ideal for engine rooms, heat exchangers and steam pipes to combine anticorrosive protection with energy profile upgrade.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	150	500	325
Wet Film Thickness (µm):	176	588	382
Coverage Rate (m^2/L):	5.7	1.7	2.6

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Low Density Epoxy Polyamide	**Touch Dry Time ▸**	2h @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	8h @ 20°C
Colour ▸	Grey	**Min. Recoat Interval ▸**	8h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	8d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	85±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 190°C Short: 220°C	**Abrasion Resistance ▸**	Good

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ►	Not recommended
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019”-0.023”
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR)

Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)

20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

CTE

Coal Tar Epoxy

PRODUCT DESCRIPTION

Two-component epoxy coal tar coating. It is a high gloss coating with excellent resistance to sea water, crude oil, various soil chemicals and soil stress.

RECOMMENDED USE

As final coat on metallic surfaces, providing long-term anti corrosive protection and excellent durability especially in constructions exposed to high humidity environments or intended to be placed into the ground, such as pipes, tanks etc.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	50	120	80
Wet Film Thickness (µm):	67	160	107
Coverage Rate (m^2/L):	15	6.3	9.4

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Coal Tar Epoxy	**Touch Dry Time ▸**	1h @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	8h @ 20°C
Colour ▸	Black	**Min. Recoat Interval ▸**	12h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	8d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	75±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ►	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR)
Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.
(B) Adequate ventilation must be maintained.
(C) Explosion proof lights & electrical equipment.
(D) Non-Sparking shoes & tools for workers in area.
(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.
(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)
20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

EPN

Phenolic (Novolac Type) Epoxy

PRODUCT DESCRIPTION

Two-component phenolic epoxy (novolac type) coating. It has very good adhesion with chemical resistance against corrosive factors, such as sea water, hydrocarbons, crude oil, ketones, esters alcohols, halocarbons, acids (including sulphated/sulphurated environment) and bases.

RECOMMENDED USE

As a final coat for Engine room shields, fuel tanks (gasoline, crude oil, jet fuel), oil, hydrocarbon piping and any surface where protection against chemicals is required.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	50	120	80
Wet Film Thickness (µm):	57	138	92
Coverage Rate (m^2/L):	17.4	7.3	10.9

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Novolac Epoxy Type	**Touch Dry Time** ▸	1h @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time** ▸	8h @ 20°C
Colour ▸	Grey Colour Card	**Min. Recoat Interval** ▸	12h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing** ▸	10d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time** ▸	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life** ▸	6h @ 20°C
Solids (%vol.) ▸	87±3	**Water Resistance** ▸	Excellent
Service Temperature (Continuous, dry) ▸	Max: 220°C Short: 240°C	**Abrasion Resistance** ▸	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

APPLICATION

Conventional Spraying ►	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR)
Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.
(B) Adequate ventilation must be maintained.
(C) Explosion proof lights & electrical equipment.
(D) Non-Sparking shoes & tools for workers in area.
(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.
(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)
20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

GFE

Glass Flake Epoxy

PRODUCT DESCRIPTION

Two-component epoxy polyamide, high build coating reinforced with high content of Glass Flakes. GFE presents a high impact and abrasion resistance coating, combined with corrosion protection properties.

RECOMMENDED USE

As a self-primed, high build coating primarily for areas subject to abrasion and/or to a highly corrosive environment.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	60	120	80
Wet Film Thickness (µm):	77	154	103
Coverage Rate (m^2/L):	13	6.5	9.8

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Glass Flake Reinforced Epoxy Polyamide	**Touch Dry Time ▸**	1h @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	8h @ 20°C
Colour ▸	Grey Colour Card	**Min. Recoat Interval ▸**	12h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	8d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	78±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ►	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR)
Subsequent: Epoxy (EEN) or Polyurethane (CGU)

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.
(B) Adequate ventilation must be maintained.
(C) Explosion proof lights & electrical equipment.
(D) Non-Sparking shoes & tools for workers in area.
(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.
(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L unit (Total 5L in two metal canisters, 4:1, A:B per volume)
20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

MEF

Epoxy Filler

PRODUCT DESCRIPTION

MEF Chemical Resistant, Thermal Insulating Epoxy Filler is a low density, solvent free, novolac-type, epoxy filler that combines thermal insulating properties with chemical resistance against corrosive factors, such as sea water, hydrocarbons, ketones, esters alcohols, halocarbons, acids (including sulphated/sulphurated environment) and bases. It is considered a high build epoxy filler, as it is applicable in thick coats (up to 8mm) without sagging. It cures without volumetric change, making it applicable as a filling medium.

RECOMMENDED USE

Recommended as a high-performance filler, in cases thermal insulating properties and chemical resistance should be combined. Engine room shields, fuel tanks (gasoline, crude oil, jet fuel), oil and hydrocarbon.

APPROVALS AND CERTIFICATES

Considered for approval testing under the new IMO PSPC COT resolution MSC 288 (87).

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (mm):	1	8	3
Wet Film Thickness (mm):	1	8	3
Coverage Rate (m^2/L):	1	0.1	0.3

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Thermal Insulating Phenol Epoxy Filler	**Touch Dry Time ▸**	10h @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	11h @ 20°C
Colour ▸	Red Brown Off White	**Min. Recoat Interval ▸**	12h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	8d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 10 $g.L^{-1}$	**Max. Pot Life ▸**	5h @ 20°C
Solids (%vol.) ▸	100±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 220°C Short: 240°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1998 Test for the assessment of surface cleanliness.

APPLICATION

Airless Spraying ▶	Not Applicable.
Brush ▶	Not Applicable.
Trowel ▶	Use a good quality trowel to achieve desired thickness and surface finish. Do not exceed 8mm in thickness.
Filling ▶	Empty the activated product in the desired form. Do not remove form before full curing has been achieved.

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR), EZS
Subsequent: Epoxy (EHB, EEN, FGE, 2kMTI, CTE, EPN, CFE, EENova) or Polyurethane (CGU)

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.
(B) Adequate ventilation must be maintained.
(C) Explosion proof lights & electrical equipment.
(D) Non-Sparking shoes & tools for workers in area.
(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.
(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

EENova

Abrasion Resistant Epoxy

PRODUCT DESCRIPTION

EENova is unique among epoxy polyamide coatings for incorporating silicon elastomer nanoparticles, i.e. a soft, elastomer core, directly on the epoxy resin binder. In this way, impact/abrasion energy elements are introduced in the epoxy matrix without affecting durability. The energy absorbing particles promote the abrasion resistance and absorb acute abrasive forces protecting the integrity of both the coating and the substrate.

RECOMENDED USE

EENova is a polyamide epoxy coating for use on substrates, where severe impact or abrasion loads are experienced. Barges, clamshell grabs, cargo hold or twistlock impacting surfaces are prominent application areas.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	100	250	150
Wet Film Thickness (µm):	125	313	188
Coverage Rate (m^2/L):	8	3.2	5.33

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Abrasion/Impact Absorbing Epoxy Polyamide	**Touch Dry Time ▸**	3h @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	8h @ 20°C
Colour ▸	Red Brown Colour Card	**Min. Recoat Interval ▸**	10h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	8d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	80±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ▶	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ▶	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ▶	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR)

Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

SKG

SeaKing Fouling Release Epoxy

PRODUCT DESCRIPTION

The ultimate epoxy fouling release coating, presenting long lasting low friction and superior release properties, based on nanotechnology. Contains no biocides. Based on a PolyDiMethylSiloxane modified epoxy matrix. SeaKing is No-Self Polishing Coating applicable on seawater immersed structures. Even though it doesn't prevent fouling growth, the amphiphilic coating character allows the release of accumulated fouling by soft removal methods. The resulting surface returns to the original appearance and roughness, even after prolonged exposure. Ideal for stationary, seawater structures that antifouling coatings will eventually present fading performance.

RECOMMENDED USE

As a biocide free coating for offshore pillars and seawater immersed structures.

APPROVALS AND CERTIFICATES

Approved by DNV-GL, in accordance with the requirements and the standards of IMO Antifouling System Convention. Certificates can be provided upon request.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	75	125	100
Wet Film Thickness (µm):	100	167	133
Coverage Rate (m^2/L):	10	6	7.5

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Silicon Modified Epoxy Polyamide	**Touch Dry Time ▸**	2h @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	7h @ 20°C
Colour ▸	Red Brown, Black Colour Card	**Min. Recoat Interval ▸**	24h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner A	**Full Curing ▸**	8d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 240 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	75±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ►	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR)
Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.
(B) Adequate ventilation must be maintained.
(C) Explosion proof lights & electrical equipment.
(D) Non-Sparking shoes & tools for workers in area.
(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.
(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

CGU

Cool Glossy Stain Resistant Polyurethane Enamel

PRODUCT DESCRIPTION

CGU is an acrylic (aliphatic) polyurethane coating with outstanding colour retention abilities. This coating has exceptional resistance to weathering, staining and corrosive environment. Can be used in exterior or interior applications, or wherever a superior gloss and colour retention finish is desired. Special Nanostructured ingredients reflect incident heat radiation. CGU presents high durability, colour stability and high yellowing resistance against UV radiation, even after prolonged exposure.

RECOMMENDED USE

Ideal for the external protection of steel structures like fuel/chemical storage tanks, pipelines, refineries, nuclear stations etc. Exceptional protection against UV and IR (heat) radiation. Does not yellow. A highly resistant coating to abrasion and chemicals.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	60	120	80
Wet Film Thickness (µm):	100	200	133
Coverage Rate (m^2/L):	10	5	7.5

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Acrylic Aliphatic Polyurethane	**Touch Dry Time ▸**	30min @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	4h @ 20°C
Colour ▸	Pure White Colour Card	**Min. Recoat Interval ▸**	12h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner B	**Full Curing ▸**	2d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 450 $g.L^{-1}$	**Max. Pot Life ▸**	6h @ 20°C
Solids (%vol.) ▸	60±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 150°C Short: 180°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ▶	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ▶	Minimum: 30:1 pump. Nozzle: 0.017"-0.023"
Brush ▶	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Epoxy (ESP, EPR, EZR), EZS

Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

ACQ

AntiCorrosive QuickDry Alkyd Primer

PRODUCT DESCRIPTION

One-component, corrosion inhibitive, high quality alkyd primer for steel exposed to a soft or moderately corrosive environment. Quick drying and easily applicable. It presents excellent adhesion, flexibility and high anti-corrosive protection due to its special pigments of zinc phosphate and zinc oxide. It contains no lead compounds. Non-toxic.

RECOMMENDED USE

As a corrosion inhibitive, high quality primer for exposed steel. Use over alkyds to upgrade system. Excellent for priming storage tanks, industrial plants, machinery, and other metal subjected to heavy industrial use and exterior exposure.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	40	80	60
Wet Film Thickness (µm):	73	145	109
Coverage Rate (m^2/L):	13.8	6.9	9.2

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Alkyd Anticorrosive Primer	**Touch Dry Time ▸**	2h @ 20°C
Components ▸	Single Component	**Dry Through Time ▸**	3h @ 20°C
Colour ▸	Red Brown, Grey, White	**Min. Recoat Interval ▸**	3h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner B	**Full Curing ▸**	24h @ 20°C
Mixing Ratio (v:v) ▸	Single Component	**Induction Time ▸**	-
VOC ▸	< 425 $g.L^{-1}$	**Max. Pot Life ▸**	-
Solids (%vol.) ▸	55±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 120°C Short: 150°C	**Abrasion Resistance ▸**	Good

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Airless Spraying ▶	Minimum: 30:1 pump. Nozzle: 0.018”-0.020”
Brush ▶	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: -

Subsequent: Alkyd (ENM, ASD)

HEALTH AND SAFETY

- **(A)** Use normal precautions such as gloves, facemasks.
- **(B)** Adequate ventilation must be maintained.
- **(C)** Explosion proof lights & electrical equipment.
- **(D)** Non-Sparking shoes & tools for workers in area.
- **(E)** This product contains flammable materials. Forbid all flames, smoking and welding in work area.
- **(F)** Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L & 20L metal canisters

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

SUP

SurfaMix Universal Acrylic Primer

PRODUCT DESCRIPTION

One-component acrylic primer, based on a special engineered, low viscosity and fast-curing resin that can anchor on the most demanding surfaces: galvanized ferrous, aluminium surfaces or vitreous, glazed and low porosity surfaces. SurfaMix Universal Primer exhibits good wetting and low touch-dry / curing time. Extremely weathering and UV resistant coating. Its application results in an elastic membrane that can withstand temperature expansion/contraction and prevent cracking. Provides a perfect substrate for final coating.

RECOMMENDED USE

As a corrosion inhibitive high quality Primer for galvanized steel or aluminium exposed to corrosive environment. Excellent for priming metallic, other than carbon steel substrates subjected to heavy industrial use and to exterior exposure.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	80	140	110
Wet Film Thickness (µm):	123	215	169
Coverage Rate (m^2/L):	8.1	4.6	5.9

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Acrylic Primer for Non-Ferrous Substrates	**Touch Dry Time ▸**	45min @ 20°C
Components ▸	Single Component	**Dry Through Time ▸**	1h @ 20°C
Colour ▸	Grey, White	**Min. Recoat Interval ▸**	3h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner B	**Full Curing ▸**	24h @ 20°C
Mixing Ratio (v:v) ▸	Single Component	**Induction Time ▸**	-
VOC ▸	< 425 $g.L^{-1}$	**Max. Pot Life ▸**	-
Solids (%vol.) ▸	65±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 120°C Short: 150°C	**Abrasion Resistance ▸**	Good

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Airless Spraying ▶	Minimum: 30:1 pump. Nozzle: 0.018”-0.020”
Brush ▶	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: -

Subsequent: Alkyd (ENM, ASD), Solvent based Acrylic Top Coats, CGU

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L & 20L metal canisters

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

ENM

Enamel Alkyd

PRODUCT DESCRIPTION

ENM Enamel is a high gloss alkyd finish coating, possessing excellent colour stability and gloss retention for interior and exterior applications. Engineered for application over alkyd primers. ENM offers long-lasting performance and anticorrosion protection. Optimized rheology makes it easy to apply on vertical surfaces, even in presence of high moisture levels. Excellent adhesion to most conventional top-coatings.

RECOMMENDED USE

As a finish coat for metallic surfaces. A quick drying, hard, water resistant coating. Can be applied over intact existing conventional systems and over suitable primers. Good adhesion properties in wet and dry exposure conditions.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	50	100	70
Wet Film Thickness (µm):	91	182	127
Coverage Rate (m^2/L):	11	5.5	7.9

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Alkyd Anticorrosive Enamel TopCoat	**Touch Dry Time ▸**	90min @ 20°C
Components ▸	Single Component	**Dry Through Time ▸**	2h @ 20°C
Colour ▸	Red Brown, Grey, White Colour Card	**Min. Recoat Interval ▸**	7h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner B	**Full Curing ▸**	24h @ 20°C
Mixing Ratio (v:v) ▸	Single Component	**Induction Time ▸**	-
VOC ▸	< 430 $g.L^{-1}$	**Max. Pot Life ▸**	-
Solids (%vol.) ▸	55±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 120°C Short: 150°C	**Abrasion Resistance ▸**	Good

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Airless Spraying ▶	Minimum: 30:1 pump. Nozzle: 0.013”-0.019”
Brush ▶	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Alkyd ACQ, Acrylic SUP

Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

5L & 20L metal canisters

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

ASD

AntiSlip Deck Coating

PRODUCT DESCRIPTION

One-component self-priming alkyd coating. Exhibits high wearing resistance and near-zero gloss. Fast drying and low-dirt pickup. Does not yellow or flake, even in harsh weathering conditions. Protects against corrosion. Applicable in adverse environmental conditions. Used as an abrasion resistant and final anti-slip coating on metal, concrete surfaces and industrial floors.

RECOMMENDED USE

As an abrasion resistant and final anti-slip coating.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	80	120	100
Wet Film Thickness (µm):	133	200	167
Coverage Rate (m^2/L):	11	5.5	7.9

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Alkyd AntiSlip TopCoat	**Touch Dry Time ▸**	60min @ 20°C
Components ▸	Single Component	**Dry Through Time ▸**	2h @ 20°C
Colour ▸	Blue, Grey, White Colour Card	**Min. Recoat Interval ▸**	6h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner B	**Full Curing ▸**	24h @ 20°C
Mixing Ratio (v:v) ▸	Single Component	**Induction Time ▸**	-
VOC ▸	< 430 $g.L^{-1}$	**Max. Pot Life ▸**	-
Solids (%vol.) ▸	60±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 120°C Short: 150°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Airless Spraying ▶	Minimum: 30:1 pump. Nozzle: 0.021”-0.023”
Brush ▶	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: Alkyd ACQ

Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

20L metal canisters

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

EZS

NanoZinc Rich Ethyl Silicate Primer

PRODUCT DESCRIPTION

Two-component, self-healing inorganic zinc ethyl silicate primer. It has excellent chemical resistance. It is heat resistant up to 590°C. Offers cathodic anticorrosion protection even in paint spots that have suffered abrasive failure.

RECOMMENDED USE

EZS is recommended for long-term protection in moderately to severely corrosive environment. Ideal primer in combination with advanced anticorrosion coating systems, in C5-I or C5-M (ISO 12944) environment.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	75	125	100
Wet Film Thickness (µm):	100	167	133
Coverage Rate (m^2/L):	10	6	7.5

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Inorganic Ethyl Zinc Silicate	**Touch Dry Time ▸**	30min @ 20°C
Components ▸	Base A & Hardener B	**Dry Through Time ▸**	1h @ 20°C
Colour ▸	Grey	**Min. Recoat Interval ▸**	1h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner B	**Full Curing ▸**	1d @ 20°C
Mixing Ratio (v:v) ▸	4:1	**Induction Time ▸**	15min @ 20°C
VOC ▸	< 400 $g.L^{-1}$	**Max. Pot Life ▸**	4h @ 20°C
Solids (%vol.) ▸	75±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 550°C Short: 590°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ►	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: -

Subsequent: Epoxy, CGU

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

20L unit (Total 20L in two metal canisters, 4:1, A:B per volume)

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

HRA

Aluminium Heat Resistant Coating

PRODUCT DESCRIPTION

One-component silicone resin coating with aluminium pigments. It is a heat resistant industrial coating to offer excellent resistance in high temperature environment (up to 600°C), combined with anticorrosive protection.

RECOMMENDED USE

As a finish coat for metallic surfaces subject to high temperatures up to 600°C, such as hot pipelines, exhaust pipes, smoke stacks, heating bodies, stovepipes, boilers etc.

FILM THICKNESS PER COAT

	Minimum	Maximum	Recommended
Dry Film Thickness (µm):	50	100	70
Wet Film Thickness (µm):	67	133	93
Coverage Rate (m^2/L):	15	7.5	10.7

Drying times differentiate in minimum or maximum values. Maintain recommended values during application. Coverage rate is Theoretical and does not include any losses.

PROPERTIES

Type ▸	Aluminium pigmented Silicone Resin	**Touch Dry Time ▸**	3h @ 20°C
Components ▸	Single Component	**Dry Through Time ▸**	7h @ 20°C
Colour ▸	Aluminium Only	**Min. Recoat Interval ▸**	6h @ 20°C
Thinner/ Cleaning Medium ▸	NanoPhos Thinner B	**Full Curing ▸**	2d @ 20°C
Mixing Ratio (v:v) ▸	-	**Induction Time ▸**	-
VOC ▸	< 430 $g.L^{-1}$	**Max. Pot Life ▸**	-
Solids (%vol.) ▸	75±3	**Water Resistance ▸**	Excellent
Service Temperature (Continuous, dry) ▸	Max: 550°C Short: 590°C	**Abrasion Resistance ▸**	Excellent

SURFACE PREPARATION

Compatible Coats: All surfaces should be clean, dry and free from oil, grease and other foreign matters or contamination. Preparation according to ISO 8502-3:1992 Test for the assessment of surface cleanliness.

Non-Immersed Bare Steel: Power Tooling, St 3, Sa 2 where practicable. Reference standard: ISO 8501-1:2007.

APPLICATION

Conventional Spraying ►	Paint pressure pot with power agitator, double air regulators, moisture trap, 1/2" ID fluid hose, 5/16" ID air hose, DeVilbiss 510 gun, "E" tip and needle, 74 or 78 air cap.
Airless Spraying ►	Minimum: 30:1 pump. Nozzle: 0.019"-0.023"
Brush ►	Recommended application method only for stripe coating or small areas

Substrate temperature should be minimum 5°C and at least 3°C above air dew point. Good ventilation is required to ensure proper drying.

PAINT SYSTEM

Preceding: EZS

Subsequent: -

HEALTH AND SAFETY

(A) Use normal precautions such as gloves, facemasks.

(B) Adequate ventilation must be maintained.

(C) Explosion proof lights & electrical equipment.

(D) Non-Sparking shoes & tools for workers in area.

(E) This product contains flammable materials. Forbid all flames, smoking and welding in work area.

(F) Avoid breathing of vapour, contact with skin or eyes. If product comes in contact with skin or eyes, wash thoroughly with water and obtain medical attention.

AVAILABLE PACKAGING

20L metal canisters

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5°C to 35°C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

NPTA

NanoPhos Thinner A

Product Description
Organic, solvent based thinner for epoxy paint systems.

Typical Properties
Density/VOC: 0,85 ±0,02 (850-870 $g.L^{-1}$)., Medium evaporation rate, Flash point >23^{o}C.

Available Packaging
5L and 20L metal canisters.

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5^{o}C to 35^{o}C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

NPTB

NanoPhos Thinner B

Product Description
Organic, solvent based thinner for alkyd/acrylic/zinc ethyl silicate/ PU, paint systems.

Typical Properties
Density/VOC: 0,85 ±0,02 (780 g.L^{-1}), Medium evaporation rate, Flash point >23^{o}C.

Available Packaging
5L and 20L metal canisters.

NOTES AND PRECAUTIONS: Storage of closed containers, in controlled dry and enclosed space, away from sources of ignition and temperatures from 5^{o}C to 35^{o}C, for up to 18 months. The Technical Data should be read in conjunction with the Safety Data Sheets and Coating Technical Specification. This product is for professional use only. For more information please contact NanoPhos: **info@NanoPhos.com** or **info@NanoPhos-Marine.com**

GENERAL NOTICE

Please observe the precautionary notices displayed on the container of each product. Use under well ventilated conditions. Do not breathe or inhale mist. Avoid skin contact. Spillage on the skin should immediately be removed with suitable cleanser, soar and water. Eyes should be well flushed with water and medical attention sought immediately. Always ask, read and comprehend health or safety hazards and precautions for use of each product, as described in the relevant Safety Data Sheet.

LIMITED WARRANTY INFORMATION- PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that NanoPhos' products are safe, effective and fully satisfactory for intended end use. Suggestions of use shall not be taken as inducements to infringe any patent. NanoPhos specifically disclaims any other expressed or implied warranty of fitness for a particular purpose or merchantability. NanoPhos disclaims liability for any incidental or consequential damages. The aforementioned products are neither tested nor represented as suitable for medical or pharmaceutical uses. NanoPhos reserves the right to change the given data without any prior notice. Minor product variations may be implanted in order to comply with local requirements. If there is any inconsistency in the text, the English Version will prevail.

Version- 011216, December 2016

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